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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,284	09/02/2005	Peter Hoghoj	XENOC3 3.3-002	3519
530 7590 11/14/2007 LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			EXAMINER YUN, JURIE	
			ART UNIT 2882	PAPER NUMBER
			MAIL DATE 11/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/518,284	Applicant(s) HOGHOJ ET AL.	
	Examiner Jurie Yun	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Terminal Disclaimer***

1. The terminal disclaimer filed on 10/22/07 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of USPN 7,248,670 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (USPN 6,829,327 B1) in view of Wittry (USPN 4,599,741).

4. With respect to claim 1, Chen discloses an optical device for treating an incident X-ray beam, said device comprising: an optical element (Fig. 1, 14) for conditioning the incident X-ray beam (15), the optical element including an X-ray reflective surface having a multilayer structure to produce a two-dimensional optical effect in order to adapt a beam; wherein said reflective surface consists of a single surface, said reflective surface being shaped according to two curvatures corresponding to two different directions (column 4, lines 25+). Chen discloses all of the elements except for a monochromator, the beam being directed towards the monochromator. Wittry discloses (column 1, lines 38-50) that use of doubly curved crystals bent in more than

one direction do not accurately focus or monochromatize an X-ray beam because they conform to Johann geometry rather than the more accurate Johansson configuration, or are bent in spherical or cylindrical shapes. Based on this teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chen to include a monochromator after the optical element, to accurately monochromatize the X-ray beam, as taught by Wittry.

5. With respect to claims 2 and 3, Chen discloses said single reflective surface is of a multilayer type with a lateral gradient and/or the single reflective surface comprises a depth gradient (column 4, lines 45+).

6. With respect to claim 4, Chen discloses said reflective surface is shaped in each of the said two different directions in order to produce two respective one-dimensional effects (see Figs. 1 & 2).

7. With respect to claim 5, Chen discloses said reflective surface has a geometry which is substantially circular in a first direction and substantially parabolic in a second direction (column 4, lines 25+).

8. With respect to claim 6, Chen discloses said first direction is a sagittal direction of the optical element and the second direction is a meridional direction of the optical element (column 4, lines 25+).

9. With respect to claims 7-9, Chen discloses said reflective surface has a substantially toroidal geometry; said reflective surface has a substantially paraboloidal geometry; and said reflective surface has a substantially ellipsoidal geometry (column 4, lines 25-40).

10. With respect to claim 10, Chen discloses said reflective surface is able to reflect rays of lines Cu-K.alpha or Mo-K.alpha (column 4, lines 6-14).

11. With respect to claim 12, Chen discloses said optical device being useable with a source of X-rays to produce a sample spot of around 300\*300 microns (column 6, lines 52-60), but does not disclose the optical element of the optical device has a length of around 2 cm, said optical device being useable with a source of X-rays having a size of around 40 microns by 40 microns. However, it would have been an obvious matter of design choice to have the optical element of the optical device have a length of around 2 cm, the optical device being usable with a source of X-rays having a size of around 40 microns by 40 microns in order to produce a sample spot of around 300 by 300 microns, in conformance with the specific application being done and with the source of the X-rays, in order to produce a desired sample spot size.

12. With respect to claims 13 and 14, Chen discloses a first one of the one-dimensional effects is a collimation, and a second one of the one-dimensional effects is a collimation or a focusing (column 2, lines 24-28 & column 4, lines 25+).

13. With respect to claims 15-17, Chen discloses said reflective surface has a geometry defined by an open or closed curve different from a circle in a first one of the directions and substantially parabolic in a second one of the directions; said reflective surface has a geometry substantially elliptical in a first one of the directions and substantially parabolic in a second one of the directions; said reflecting surface has a geometry substantially parabolic in the two different directions (column 4, lines 25+).

14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (USPN 6,829,327 B1) in view of Wittry (USPN 4,599,741) as applied to claim 1 above, and further in view of Goebel (USPN 5,373,544).

15. With respect to claim 11, Chen as modified by Wittry does not disclose the monochromator comprises a germanium crystal, and the optical element comprises a W/Si multilayer coating with a lateral gradient. Goebel discloses a monochromator, wherein the monochromator comprises a germanium crystal, and the optical element comprises a W/Si multilayer coating (column 1, lines 46-51 & column 3, lines 42-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Chen/Wittry to include a monochromator, wherein the monochromator comprises a germanium crystal, and the optical element comprises a W/Si multilayer coating, depending on the application being done, as taught by Goebel.

### ***Conclusion***

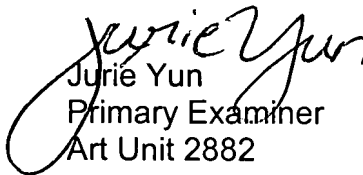
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jurie Yun whose telephone number is 571 272-2497. The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Julie Yun  
Primary Examiner  
Art Unit 2882

November 8, 2007